

II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Presently Amended) A system for manufacturing semiconductor integrated circuit (IC) devices, the system comprising:
an operating control system;
[[a]] at least one process intermediate station in communication with the operating control system, wherein at least one of the at least one process intermediate station is one of a stocker and an overhead buffer (OHB); and
a gas purge device, wherein the gas purge device is included in at least one of the at least one process intermediate station.
2. (Original) The system of claim 1 wherein the operating control system is a material control system (MCS).
3. (Original) The system of claim 1 further comprising a manufacturing execution system (MES) connected to the operating control system.
4. (Original) The system of claim 3 wherein the MES comprises an operation job supervisor (OJS).
5. (Original) The system of claim 3 wherein the MES comprises a dispatcher.
6. (Presently Amended) The system of claim 1 wherein the at least one of the at least one process intermediate station is [[a]] the stocker.
7. (Presently Amended) The system of claim 1 wherein the at least one of the at least one process intermediate station is ~~an overhead buffer (OHB)~~ the OHB.

8. (Presently Amended) The system of claim 1 wherein ~~the process intermediate station is a loadlock included in a cluster process tool~~ the at least one process intermediate station is a first process intermediate station and a second process intermediate station, wherein the first process intermediate station is the stocker and the second process intermediate station is the OHB.

9. (Presently Amended) The system of claim 1 wherein ~~the process intermediate station is a transfer chamber in a cluster process tool~~ the at least one process intermediate station is at least two process intermediate stations, wherein the gas purge device is one of a plurality of gas purge devices, and wherein each of the at least two process intermediate stations is one of a stocker including one of the plurality of gas purge devices and an OHB including one of the plurality of gas purge devices.

10. (Original) The system of claim 1 wherein the gas purge device uses nitrogen as purging gas.

11. (Presently Amended) A system for manufacturing semiconductor IC devices, the system comprising:

[[a]] an operating control system;

a plurality of process intermediate stations each in communication with the operating control system, wherein each of the plurality of process intermediate stations is one of a stocker and an overhead buffer (OHB); and

at least one gas purge device included in at least one of the plurality of process intermediate stations.

12. (Original) The system of claim 11 further comprising a manufacturing execution system (MES) connected to the operating control system.

13. (Original) The system of claim 11 wherein the MES includes a dispatcher.

14. (Original) The system of claim 13 wherein the dispatcher includes dispatching rules for dispatching a workpiece among processing equipment.

15. (Presently Amended) The system of claim 14 wherein dispatching the ~~working piece~~ workpiece includes dispatching the workpiece among the plurality of process intermediate stations.

16. (Presently Amended) A method for automatic nitrogen purge processing in manufacturing semiconductor IC devices, comprising:

transferring, via an operating control system, a workpiece to a process intermediate station, wherein the process intermediate station is one of a stocker and an overhead buffer (OHB) having a gas purge station;

performing gas purging of the workpiece; and

transferring, via the operating control system, the workpiece to a next process.

17. (Original) The method of claim 16 wherein the operating control system is a manufacturing execution system (MES) configured to control transfer of the workpiece to the process intermediate station and the next process.

18. (Original) The method of claim 16 wherein the operating control system includes a material control system (MCS) configured to control transfer of the workpiece to the process intermediate station and the next process.

19. (Original) The method of claim 16 wherein the workpiece is a lot including a plurality of wafers.

20. (Original) The method of claim 16 wherein the workpiece has at least one wafer included in a front opening unified pod (FOUP).

21. (Presently Amended) The method of claim 16 wherein the ~~gas purging is performed in a~~ process intermediate station is the stocker.

22. (Presently Amended) The method of claim 16 wherein the ~~gas purging is performed in an overhead buffer (OHB)~~ process intermediate station is the OHB.

23. (Cancelled).

24. (Cancelled).

25. (Presently Amended) The method of claim 16 wherein the gas purge station is one of a plurality of gas purge stations, the method further comprising selecting ~~a gas purge station~~ one of the plurality of gas purge stations to perform the gas purging is based on an optimized gas purge queue time, wherein the process intermediate station to which the workpiece is subsequently transferred after the one of the plurality of gas purge stations is selected has the selected one of the plurality of gas purge stations.

26. (Presently Amended) The method of claim 16 further comprising updating a tag ID after gas purging is performed, wherein the tag ID contains process history information associated with the workpiece, and wherein updating the tag ID includes updating the process history information to reflect the performance of the gas purging.

27. (Presently Amended) The method of claim 16 further comprising performing gas re-purging if a shelf time after the ~~nitrogen~~ gas purging is longer than a pre-determined time.

28. (Presently Amended) The method of claim 16 further comprising raising a flag for hold if the workpiece has no ~~tag~~ associated process history information available.

29. (Original) The method of claim 16 wherein the gas purging comprises nitrogen purging.